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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,499	02/18/2004	Michel Chateau	34076/US	6087
25763 7590 01/18/2007 DORSEY & WHITNEY LLP INTELLECTUAL PROPERTY DEPARTMENT SUITE 1500 50 SOUTH SIXTH STREET MINNEAPOLIS, MN 55402-1498			EXAMINER SHAHNAN SHAH, KHATOL S	
			ART UNIT 1645	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	01/18/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/781,499

Applicant(s)

CHATEAU ET AL.

Examiner

Khatol S. Shahnan-Shah

Art Unit

1645

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 15-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 5/13/04, 10/18/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-21 are pending in this application.

Drawings

2. The drawings filed 2/18/2004 have been accepted by the examiner.

Specification

3. The disclosure is objected to because of the following informalities:

The disclosure is objected to because it contains multiple embedded hyperlinks and/or other form of browser-executable code (see pages 4, 5, 31, 41, 43, 44, 50 and 57). Applicants are required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicants' cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Appropriate correction is required.

Information Disclosure Statement

4. The information disclosure statements filed 5/13/04 10/18/ 04 have been considered. An initialed copy is enclosed. The two Japanese references that are lined through have not been considered by the examiner since no translation of said documents were provided.

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A (1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Election/Restrictions

5. Applicants' election without traverse of 11/01/2006 is acknowledged. Applicants elected Group I, claims 1-14 drawn to a method for preparation of evolved

microorganisms. Claims 15-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions.

Double Patenting

6. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

7. Claims 1-14 provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 1-5 and 7-11 of copending Application No. 10/546,139.

Claims 1-14 of this application conflict with claims 1-5 and 7-11 of Application No.10/546,139. 37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to

prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1 and 6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being Unpatentable over claims 1 and 6 of copending Application No. 10/546,139. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are drawn to the same method for preparation of an evolved microorganism comprising the same steps and material involved in the methods. Claim 6 of the instant application recites that modification step a) favors the reduction of NADP to NADPH. Claim 6 of the copending Application No. 10/546,139 recites the same limitation plus it recites that possibly by limiting the oxidation of NADPH to NADP. It is obvious that when reduction of reduction of NADP to NADPH occurs, oxidation of NADPH to NADP will be limited.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear what applicants intend in reciting "evolved microorganism" in claim 1. How is it evolved and what does it evolve into?

It is not clear what applicants intend in reciting "permitting a modification" in claim 1. How does one know that organism permit a modification.

It is not clear what applicants intend in reciting "cause it to evolve" in claim 1. What causes the organism to evolve?

It is not clear what applicants intend in reciting "evolution" in claim 1.

It is not clear what applicants intend in reciting "production microorganisms" in claim 14. What defines a production microorganism?

Claim 9 depends from claim 8 and recites to add a step d), claim 8 does not recite any steps.

Claim 13 depends from claim 12 and recites to add a step d), claim 12 does not recite any steps.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-4 and 8-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamori et al. (Applied Microbial Biotechnology, vol.52, pp. 179-185, 1999).

The claims are drawn to a method for the preparation of evolved microorganisms permitting a modification of metabolic pathways, comprising the following steps: a) preparing a modified microorganism by genetic modification of cells of an initial microorganism so as to inhibit the production or consumption of a metabolite when that microorganism is grown on a defined medium, thereby impairing the ability of that microorganism to grow; b) culturing the modified microorganism thereby obtained on said defined medium to cause it to evolve, where the defined medium can contain a co-substrate to allow such evolution; and c) selecting a modified microorganism able to grow on said defined medium, if necessary with a co-substrate.

Nakamori et al. teach a preparation of evolved microorganisms permitting a modification of metabolic pathways (see abstract). Nakamori et al. teach preparing a modified microorganism by genetic modification of cells of an initial microorganism so as to inhibit the production or consumption of a metabolite (methionine) when that microorganism is grown on a defined medium, see page 180 wherein E.coli JM 109 cells in the late exponential phase in LB medium were mutagenized. Nakamori et al. produced L-methionine-analogue resistant mutants (se page 180). Nakamori et al. teach culturing the modified microorganism thereby obtained on said defined medium to cause it to evolve, where the defined medium can contain a co-substrate to allow such evolution and c) selecting a modified microorganism able to grow on said defined medium, if necessary with a co-substrate, see page 180 under selection and cultivation of L-methionine-producing mutants (i.e. an evolved microorganism). Nakamori et al teach biosynthesis pathway of amino acids and methionine (see title and abstract).

Nakamori et al. also teach limitation of claims 8-14 wherein the evolved microorganism possesses at least one evolved gene coding for an evolved protein (see page 182 Introduction of the wild-type metJ gene into the L- methionine-

producing strain with a mutant metJ gene and page 183 Molecular modeling of the DNA-binding region in the mutant MetJ protein). The prior art anticipates the claimed invention.

13. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 93/177112 published 2 September 1993.

The claims are drawn to a method for the preparation of evolved microorganisms permitting a modification of metabolic pathways, comprising the following steps: a) preparing a modified microorganism by genetic modification of cells of an initial microorganism so as to inhibit the production or consumption of a metabolite when that microorganism is grown on a defined medium, thereby impairing the ability of that microorganism to grow; b) culturing the modified microorganism thereby obtained on said defined medium to cause it to evolve, where the defined medium can contain a co-substrate to allow such evolution; and c) selecting a modified microorganism able to grow on said defined medium, if necessary with a co-substrate.

WO 93/177112 teaches a preparation of evolved microorganisms permitting a modification of metabolic pathways i.e. biosynthesis pathway of amino acids (see abstract and amended claims). WO 93/177112 teaches preparing a modified microorganism by genetic modification of cells of an initial microorganism so as to inhibit the production or consumption of a metabolite (methionine) when that microorganism is grown on a defined medium (see claims). WO 93/177112 teaches preparing a modified microorganism by genetic modification of cells of an initial microorganism see amended claim 1. WO 93/177112 teaches culturing the modified microorganism thereby obtained on said defined medium to cause it to evolve, where the defined medium can contain a co-substrate to allow such evolution and c) selecting a modified microorganism able to grow on said defined medium, if necessary with a co-substrate, see claims specially claim 1. WO 93/177112 teaches limitations of claims 5-7 wherein the metabolic pathway consumes NADPH (see figure 1). WO 93/177112 teaches biosynthesis pathway of amino acids, methionine (see title and abstract). The prior art anticipates the claimed invention.

Status of the Claims

14. No claims are allowed.


Conclusion

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khatol Shahnan-Shah whose telephone number is 571-272-0863. The examiner can normally be reached on Monday-Friday 7:30 AM-5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery Siew can be reached on 571-272-0787.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


LARRY R. HELMS, PH.D.
SUPERVISORY PATENT EXAMINER


Khatol Shahnan-Shah . B.S.,
Pharm, M.S.
Biotechnology Patent Examiner
Art Unit 1645
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